



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,284	08/20/2003	Brindesh Dhruva	60.1489	5793

37003 7590 10/19/2005

SCHLUMBERGER-DOLL RESEARCH  
36 OLD QUARRY ROAD  
RIDGEFIELD, CT 06877-4108

EXAMINER

JACKSON, ANDRE K

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,284

Applicant(s)

DHRUVA ET AL.

Examiner

André K. Jackson

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,10-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 3-6,8,9,14,15 and 17-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

While the Examiner can find the recitation of a control means there is no positive recitation of a control means having a means for detecting an occurrence of a break in the mud cake seal. Appropriate correction and or explanation are needed.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1,2,12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proett et al. (5644076) in view of Proett et al. (5703286).

Regarding claim 1, Proett et al. disclose in the patent entitled "Wireline formation tester supercharge correction method" providing a tool

defining a probe and a variable-volume pretest cavity fluid coupled to the probe pressing the probe into contact with the mud cake (218; Figure 2B); expanding the volume of the cavity in sufficient amount to produce a break in the mud cake seal during a draw-down period (Column 3) and detecting an occurrence of a break in the mud cake seal (Column 2). Proett et al. do not disclose holding constant the volume of the cavity immediately after detecting the occurrence of the break in the mud cake seal for a sufficient build-up period to establish pressure equilibrium between cavity fluid and formation fluid; measuring pressure in the cavity and setting formation fluid pressure equal to the measured pressure. However, Proett et al. disclose in the patent entitled "Method of formation testing" holding constant the volume of the cavity in the mud cake seal for a sufficient build-up period to establish pressure equilibrium between cavity fluid and formation fluid; measuring pressure in the cavity and setting formation fluid pressure equal to the measured pressure (Column 9, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Proett et al. to include holding constant the volume of the cavity in the mud cake seal for a sufficient build-up period to establish pressure equilibrium between cavity fluid and formation fluid; measuring pressure in the cavity and setting formation fluid pressure equal to the measured pressure. By adding this feature the apparatus would be able to accurately perform pressure tests on various formations.

Regarding claim 2, Proett et al. disclose where detecting the break in the mud cake seal includes measuring cavity pressure and detecting an abrupt change associated with cavity pressure (Column 2, lines 46-60).

Regarding claim 12, Proett et al. disclose an elongated body adapted for downhole operation; a probe, extendable from the elongated body, the probe defining an inflow aperture; a pretest piston pump defining a variable-volume pretest cavity coupled to the inflow aperture; a control means (700,906) a) means for expanding the-volume of the pretest cavity in sufficient amount to produce a break in the mud cake seal and b) means for detecting an occurrence of a break in the mud cake seal (Column 3, Figure 2B). Proett et al. do not disclose a means for holding constant the volume of the cavity immediately after detecting the occurrence of the break-in-the mud cake seal for a sufficient build-up period to establish pressure equilibrium between pretest cavity fluid and-formation fluid and a pressure sensor coupled to measure pressure in the pretest cavity. However, Proett et al. disclose a means for holding constant the volume of the cavity immediately after detecting the occurrence of the break-in-the mud cake seal for a sufficient build-up period to establish pressure equilibrium between pretest cavity fluid and-formation fluid and a pressure sensor coupled to measure pressure in the pretest cavity (Column 9, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify Proett et al. to include a means for holding constant the volume of the cavity immediately after detecting the occurrence of the break-in-the mud cake seal for a sufficient build-up period to establish pressure equilibrium between pretest cavity fluid and-formation fluid and a pressure sensor coupled to measure pressure in the pretest cavity. By adding this feature the apparatus would be able to accurately perform pressure tests on various formations.

Regarding claim 16, Proett et al. disclose where the tool includes a constant volume flow line (Figure 2B).

5. Claims 7,10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proett et al. (5644076) in view of Proett et al. (5703286) and in further view of Desbrandes.

Regarding claim 7, Proett et al. disclose detecting an occurrence in the break in the mud cake seal (Column 2). Proett et al. do not disclose detecting a difference between a measured cavity pressure and a corresponding cavity pressure from a reference cavity pressure profile. However, Desbrandes discloses in the publication "Wireline formation testing A new extended drawdown technique" where detecting the break in the mud cake seal includes detecting a difference between a measured cavity pressure and a corresponding cavity pressure from a reference cavity pressure profile (Page 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

modify Proett et al. to include where detecting the break in the mud cake seal includes detecting a difference between a measured cavity pressure and a corresponding cavity pressure from a reference cavity pressure profile. By adding this feature the apparatus would be able to properly obtain a formation and permeability reading.

Regarding claim 10, Proett et al. do not disclose where the predetermined constant rate is within the range of 3-160cc/minute. However, Desbrandes et al. disclose in the publication "A new concept in wireline formation testing extended drawdown" where the predetermined constant rate is within the range of 3-160cc/mhmte (Page 4, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Proett et al. to include where the predetermined constant rate is within the range of 3-160cc/minute. By adding this feature the apparatus would be able to measure permeability accurately since the constant rate would be within a particular range.

Regarding claim 11, Proett et al. do not disclose where the predetermined constant rate is approximately 5cc/minute. However, Desbrandes et al. disclose where the predetermined constant rate is within the range of 3-160cc/mhmte (Page 4, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Proett et al. to include where the predetermined constant rate is within the range of 3-160cc/minute. By

adding this feature the apparatus would be able to measure permeability accurately since the constant rate would be within a particular range.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proett et al. (5644076) in view of Proett et al. (5703286) and in further view of Proett et al.

Regarding claim 13, Proett et al. do not disclose where the control means includes an electromechanically driven roller screw planetary system. However, Proett et al. disclose in the publication "Supercharge pressure compensation with new wireline formation testing method" where the control means includes an electromechanically driven roller screw planetary system (Page 3, column 1, lines 13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Proett et al. to include where the control means includes an electromechanically driven roller screw planetary system. By adding this feature the apparatus would be able to take multiple tests during a single pad test.

7. Claims 3-5,8,9,14 and 17-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

8. Applicant's arguments filed 08/03/05 have been fully considered but they are not persuasive.

Applicant has argued that Proett et al. (5703286) do not disclose holding constant the volume of the cavity in the mud cake seal for a sufficient build-up period to establish pressure equilibrium between cavity fluid and formation fluid; measuring pressure in the cavity and setting formation fluid pressure equal to the measured pressure. However, Proett et al. show that there is a constant or equilibrium pressure established in Column 9, lines 1-10.

As noted by the Applicant on page 11, 5.4 of the REMARKS Proett et al. disclose detecting an occurrence of a break in the mud cake seal.

Applicant has argued that Proett et al. do not specifically use detecting an occurrence of a break in the mud cake seal to initiate the steps of holding constant the volume of the cavity immediately after detecting the occurrence of the break...". This is not claimed in claim 2.

Applicant has argued that Desbrandes does not disclose detecting an occurrence of a break in the mud cake seal. The Examiner agrees with the Applicant. Proett is used to show detecting the occurrence of a break in the mud cake seal.

Applicant has argued that Proett et al. do not disclose an electromechanically driven roller screw system. However, Proett et al. disclose that the packer system is hydraulically driven and not the ball

screw mechanism, then Proett et al. disclose that it is well known that most systems are driven electromechanically (Page 3, Column 1, lines 20-33).

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to André K. Jackson whose telephone number is (571) 272-2196. The examiner can normally be reached on Mon.-Thurs. 7AM-4PM.


Art Unit: 2856

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.J.

October 14, 2005

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800